

REMARKS

Claims 2-11 and 17-18 were pending in this application. By this response, Applicant has amended claims 17 and 18. Accordingly, claims 2-11 and 17-18 are submitted for reconsideration.

In the Office Action, claims 2-7 and 18 were rejected for lack of enablement under 35 U.S.C. § 112, ¶ 1. The Examiner has asserted that the specification does not reasonably provide enablement for "all non-planar substrates." Applicant respectfully disagrees. First of all, base claim 17 recites, *inter alia*, the manufacturing of a substantially continuous circumferential coating on a non-planar substrate that has an external circumferential surface. Accordingly, the non-planar substrate recited in the claims is limited to non-planar substrates having an external circumferential surface and upon which a continuous circumferential coating is formed. An optical fiber is merely an example of such a non-planar substrate having an external circumferential surface, which is clearly described and enabled in the specification of the present application. Accordingly, Applicant submits that the claims are in conformance with 35 U.S.C. § 112, ¶ 1.

Moreover, there is no requirement under 35 U.S.C. § 112, ¶ 1 to describe how to enable "all non-planar substrates." Rather, the test of enablement is whether one skilled in the art could make or use the invention from the disclosure in the patent in combination with information known in the art without undue experimentation. See *United States v. Telectronics, Inc.*, 857 F.2d 778, 785 (Fed. Cir. 1988). This test is not whether any experimentation is necessary, but rather whether a necessary experimentation is undue. See *In re Angstadt*, 537 F.2d 498, 504 (C.C.P.A. 1976). In accordance with MPEP § 2164.04, the Examiner has the initial burden to establish a reasonable basis to question the enablement provided for the claimed invention. At a minimum, the Examiner is required to give reasons for the uncertainty of the enablement. See *In re Bowen*, 492 F.2d 859, 862-63 (C.C.P.A. 1974). In the rejection, the Examiner has not set forth any reason why the scope of claim 17 (the only independent claim) is not enabled or why it would require undue experimentation. Accordingly, for all of these reasons, the rejection under 35 U.S.C. § 112, ¶ 1 should be withdrawn.

Lastly, the Examiner rejected claims 2-11 and 17-18 under 35 U.S.C. § 103(a) over Winn et al. (U.S. Patent No. 5,168,540) in combination with Donckel et al. (U.S.

Patent No. 3,860,444). Claim 17, as amended, recites that a method of manufacturing a substantially continuous circumferential coating on a non-planar substrate having a length and a width and an exposed external circumferential surface comprises, *inter alia*, heating the non-planar substrate in a static substrate deposition geometry. The method heats the substrate in a manner such that the exposed external circumferential surface of the non-planar substrate remains exposed to an extent sufficient to form the continuous coating thereon, the exposed external circumferential surface of the non-planar substrate being heated to substantially the same temperature, the temperature being sufficient for decomposition of a gaseous precursor material.

Winn et al. discloses that fibers were coated in a planar substrate CVD reactor by cantilevering quartz fiber tubes over the edge of the substrate holder (column 7, lines 36-39). The fibers were glued to the edge of a Si wafer standoff which rested on an SiC susceptor heated by an infrared lamp (column 7, lines 39-42). As shown in Fig. 2, the CVD reactor 202 includes a platform having a susceptor 210 for mounting a substrate element 212 (column 7, lines 19-22). The susceptor 210 and substrate 212 are heated to an elevated temperature sufficient to decompose a source reagent and deposit barium fluoride on the substrate 212 (column 7, lines 22-29).

In contrast to claim 17, Winn et al. fails to disclose or suggest that the exposed external circumferential surface of the non-planar substrate is heated to substantially the same temperature. First of all, Winn et al. merely discloses heating the susceptor 210 and substrate 212 to an elevated temperature, but admittedly does not disclose or suggest the means for heating them (see column, line 23) nor that the exposed circumferential surface of the fibers is heated to substantially the same temperature. Moreover, since the fibers in Winn et al. are glued to the susceptor and cantilevered over the edge of the substrate holder, there is no disclosure or suggestion as to how one skilled in the art could heat exposed external circumferential surface of the non-planar substrate being heated to substantially the same temperature. Accordingly, claim 17 is patentably distinguishable from Winn et al.

Donckel et al. discloses that a wire 2 is heated by heat sources 4 and 8 (column 3, lines 17-49). As shown in Figs. 1-3, heat sources 4 and 8 are directed at specific portions of the wire 2. Accordingly, like Winn et al., Donckel et al. fails to disclose or suggest that the exposed external circumferential surface of the non-planar substrate is

heated to substantially the same temperature, as recited in claim 17. Therefore, even if combinable, claim 17 is patentably distinguishable from the combination of Winn et al. and Donckel et al.

Claims 2-11 and 18 also are patentably distinguishable from the combination of Winn et al. and Donckel et al. by virtue of their dependence from claim 17, as well as their additional recitations. For example, claim 18, as amended, recites that the optical fiber is separated from a heating surface for heating the fiber by a substantially constant sized gap large enough to allow the vapor to envelop the surface of the fiber but small enough to allow the surface of the fiber to be heated to the deposition temperature by the heating surface. In contrast to claim 18, neither Winn et al. nor Donckel et al. disclose or suggest that the optical fiber is separated from a heating surface for heating the fiber by a substantially constant sized gap. Rather, as discussed above, Winn et al. does not even disclose or suggest anything about the heating source. In addition, as shown in Figs 1-3 of Donckel et al., the gap between wire 2 and heating sources 4 and 8 is anything but substantially constant. Accordingly, claim 18 further distinguishes the claimed invention from the combination of Winn et al. and Donckel et al.

Applicant believes that the present application is now in condition for allowance. Favorable consideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

Date

15 January 2003

By

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Version with Markings to Show Changes Made

17. (Amended) A method of manufacturing a substantially continuous circumferential coating on a non-planar substrate having a length and a width and an exposed external circumferential surface, said method comprising the steps of:

heating the non-planar substrate in a static substrate deposition geometry in a manner such that [an] the exposed external circumferential surface [on] of the non-planar substrate remains exposed to an extent sufficient to form the continuous coating thereon, [and] the exposed external circumferential surface of the non-planar substrate being heated to [a] substantially the same temperature, the temperature being sufficient for decomposition of a gaseous precursor material;

independently heating a source material to provide said gaseous precursor material; and

directing said gaseous precursor material to said static non-planar substrate, whereby the substantially continuous circumferential coating is formed from decomposition of the gaseous precursor material on the exposed circumferential surface of the non-planar substrate.

18. (Twice Amended) A method in accordance with claim 8, wherein the optical fiber is separated from a [source] heating [the] surface [of the optical] for heating the fiber by a substantially constant sized gap large enough to allow the vapor to envelop the surface of the fiber but small enough to allow the surface of the fiber to be heated to the deposition temperature by the heating surface.